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10/023,556	12/17/2001	Steven R. Corman	12218.1300	2663

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EXAMINER

WOZNIAK, JAMES S

ART UNIT PAPER NUMBER

2655

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/023,556

Applicant(s)

CORMAN ET AL.

Examiner

James S. Wozniak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-13, 15, 28-34, and 36 is/are rejected.
- 7) ☒ Claim(s) 7, 14, 16-27, 35 and 37-48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. **Claims 16, 18, 37, and 39** are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

With respect to **Claim 16**, the examiner notes that it is unclear whether this claim is intended to be an independent or dependent claim as it is currently written. The claim should be rewritten in an appropriate format in order to clearly identify the dependency of the claim in the case of a dependent claim or include all of the limitations of claims 8 and 14 in the case of an independent claim. For the purpose of furthering prosecution, the examiner has interpreted claim 16 to be dependent upon claim 14, since claim 14 also depends upon claim 8.

With respect to **Claim 18**, the examiner notes that it is unclear whether this claim is intended to be an independent or dependent claim as it is currently written. The claim should be rewritten in an appropriate format in order to clearly identify the dependency of the claim in the case of a dependent claim or include all of the limitations of claims 8 and 14 in the case of an independent claim. For the purpose of furthering prosecution, the examiner has interpreted claim 18 to be dependent upon claim 14.

With respect to **Claim 37**, the examiner notes that it is unclear whether this claim is intended to be an independent or dependent claim as it is currently written. The claim should be

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rewritten in an appropriate format in order to clearly identify the dependency of the claim in the case of a dependent claim or include all of the limitations of claims 28 and 35 in the case of an independent claim. For the purpose of furthering prosecution, the examiner has interpreted claim 37 to be dependent upon claim 35, since claim 35 also depends upon claim 28.

With respect to **Claim 39**, the examiner notes that it is unclear whether this claim is intended to be an independent or dependent claim as it is currently written. The claim should be rewritten in an appropriate format in order to clearly identify the dependency of the claim in the case of a dependent claim or include all of the limitations of claims 28 and 35 in the case of an independent claim. For the purpose of furthering prosecution, the examiner has interpreted claim 39 to be dependent upon claim 35.

2. **Claims 17-18 and 38-39** are objected to because of the following informalities:

**Claims 17, 18, 38, and 39** contain informally written (*handwritten*) equations and should be rewritten in a formal manner.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. **Claims 1, 3-6, 8, 10-13, 15, 28-29, 31-34, and 36** are rejected under 35 U.S.C. 102(b) as being anticipated by Hearst (*"Automated Discovery of WordNet Relations," 1998*).

With respect to **Claim 1**, Hearst discloses:

Dividing the text into sentences (*sentence extraction, Pages 6-7, Section 2.3*);

Parsing the sentences into one or more noun phrases (*noun phrase parsing, Pages 6-7, Section 2.3*);

Converting words in the noun phrases into networks of word relationships (*noun hierarchy, Page 9, Section 3*);

Analyzing the word relationship networks to determine the influence of each word (*analyzing the influence of a hyponym in defining a hypernym as a useful link in a WordNet application, Pages 8-13, 16-17, Section 3*).

With respect to **Claim 3**, Hearst discloses recording nouns that occur in plural form in a singular form (*Page 8, Section 2.3*).

With respect to **Claim 4**, Hearst teaches linking noun phrases that are located after a candidate hyponym noun phrase in a sentence (*Page 7, Section 2.3*).

With respect to **Claim 5**, Hearst further teaches linking possible pairs of words in a noun phrase having 3 or more words (*"authors" example, Page 4, Section 2.1*).

With respect to **Claim 6**, Hearst discloses determining a relation of words to a central common or linking term in a determination of useful hyponym links (*"authors" example, Page 4, Section 2.1; Pages 8-13, Section 3*).

With respect to **Claim 8**, Hearst discloses:

Dividing the text into sentences (*sentence extraction, Pages 6-7, Section 2.3*);

Parsing the sentences into one or more noun phrases (*noun phrase parsing, Pages 6-7, Section 2.3*);

Converting words in the noun phrases into networks of word relationships (*noun hierarchy, Page 9, Section 3*);

Analyzing the word relationship networks to determine the influence of each word (*analyzing the influence of a hyponym in defining a hypernym as a useful link in a WordNet application, Pages 8-13, 16-17, Section 3*); and

Applying the analyzed networks to perform a specific language task (*utilizing WordNet for natural language processing and information retrieval, Page 1, Section 1*).

**Claims 10-13** contain subject matter similar to Claims 3-6, respectively, and thus, are rejected for the same reasons.

With respect to **Claim 15**, Hearst discloses utilizing WordNet for information retrieval (*Page 1, Section 1*).

With respect to **Claim 28**, Hearst discloses:

Compartmentalizing the text into defined units (*sentence extraction, Pages 6-7, Section 2.3*);

Categorizing the defined units by:

Parsing the units into one or more noun phrases each comprising one or more words (*noun phrase parsing, Pages 6-7, Section 2.3*);

Converting words in the noun phrases into networks of word relationships (*noun hierarchy, Page 9, Section 3*);

Analyzing the word relationship networks to determine the structural influence of each word (*analyzing the influence of a hyponym in defining a hypernym as a useful link in a noun hierarchy structure, Pages 8-13, 16-17, Section 3*); and

Applying the analyzed networks to perform a specific language task (*utilizing WordNet for natural language processing and information retrieval, Page 1, Section 1*).

With respect to **Claim 29**, Hearst discloses the process of sentence extraction as applied to Claim 28.

**Claims 31-34** contain subject matter similar to Claims 3-6, respectively, and thus, are rejected for the same reasons.

With respect to **Claim 36**, Hearst discloses utilizing WordNet for information retrieval (*Page 1, Section 1*).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 2, 9, and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hearst in view of Budzinski et al (*U.S. Patent: 5,715,468*).

With respect to **Claims 2, 9, and 30**, Hearst teaches the method for analyzing text relationships as applied to Claims 1, 8, and 28. Hearst does not specifically suggest substituting

identified nouns for pronouns within a noun phrase, however Budzinski teaches such a function (*Col. 50, Lines 12-35*).

Hearst and Budzinski are analogous art because they are from a similar field of endeavor in text processing utilizing parsing. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Hearst with the pronoun substitution method taught by Budzinski in order to provide additional meaning for pronouns in text processing (*Budzinski, Col. 50, Lines 12-35*).

***Allowable Subject Matter***

7. **Claims 7, 14, 16-27, 35, and 37-48** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

With respect to **Claims 7, 14, and 35**, the prior art of record fails to explicitly teach or fairly suggest a means for calculating the structural influence of each word in a network by utilizing the equation in claims 7, 14, and 35. Although Hearst teaches analyzing word influence, Hearst does not utilize the equation in claims 7, 14, and 35 or a derivative thereof to determine the influence of a word.

**Claims 16-27 and 37-48** further limit objected claims containing allowable subject matter, and thus, also contain allowable subject matter.



*Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Fujisawa et al (*U.S. Patent: 5,404,506*)- teaches a method for determining the meaning of a noun phrase in a conceptual network.

Boguraev (*U.S. Patent: 6,212,494*)- teaches a method for determining a topic of a text document using a lexical network containing noun phrases.

McKeown (*U.S. Patent: 6,473,730*)- discloses a method for determining a topic of a text document by analyzing noun phrases.

Cortson et al (*U.S. Patent: 6,901,399*)- discloses a noun phrase hierarchy tree.

Sanderson et al ("*Deriving Concept Hierarchies from Text*," 1999)- teaches a means for generating a hierarchical organization of concepts from a set of documents.

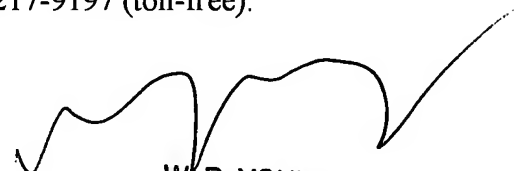
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak  
8/22/2005



W. R. YOUNG  
PRIMARY EXAMINER